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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/516,114	03/01/2000	James J. Stiscia	8479-041	3029

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EXAMINER

NGUYEN, DUNG X

ART UNIT PAPER NUMBER

2631

DATE MAILED: 03/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/516,114

Applicant(s)

STISCIA ET AL.

Examiner

Dung X Nguyen

Art Unit

2631

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2 - 4, 6, 7, 12, and 13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2 - 4, 6, 7, 12, and 13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 February 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Response to Arguments

1. Applicant's arguments filed on February 04, 2004 have been considered but are moot in view of the new ground(s) of rejection. Claims 1, 5, 8, 10, and 11 have been canceled.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. **Claim 9 is rejected** under 35 U.S.C. 112, first paragraph, as based on a disclosure which is not enabling. A field effect transistor is critical or essential to the practice of the invention, but not included in the claim(s) is not enabled by the disclosure. See *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976).

Regarding claim 9, line 8, "a field effect transistor" is not disclosed in the specification.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. **Claims 2 – 4, 6, and 7 are rejected** under 35 U.S.C. 103(a) as being unpatentable over Moschytz et al. (US patent # 6,208,732 B1), and further in view of Gerszberg et al. (US patent # 6,510,152 B1).

Regarding claims 2 and 3, respectively, Moschytz et al. discloses:

- A hybrid circuit for interfacing a twisted pair transmission line to a receiver and also to a transmitter (column 1, lines 17 – 28);
- The hybrid circuit is provided with an adjustable termination impedance (adjusting for matching, column 1, lines 29 – 52);
- The adjustable termination impedance is inherently configured to selectively connect at least one transformer of the hybrid circuit to at least one or more discrete components (column 1, lines 29 to column 2, line 11).

Moschytz et al. differs from the instant claimed invention that it does not show the multiplexer. However, Gerzberg et al. discloses the use of multiplexer in a hybrid circuit (see block 84 of figure 4A simultaneously connected data to router & facilities interface (86) and subscriberlines via digital filters (82s), xDSL/cable modems (80s), cross connector (73), line protection (71), and column 3, lines 6 – 9). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine Moschytz et al. and Gerzberg et al. to provide a multiplexer for easier to control the system.

Regarding claim 4, Moschytz et al. discloses:

- A hybrid circuit for interfacing a twisted pair transmission line to a receiver and also to a transmitter (column 1, lines 17 – 28);
- The hybrid circuit is provided with an adjustable termination impedance (adjusting for matching, column 1, lines 29 – 52);
- The adjustable termination impedance is inherently configured to selectively connect at least one transformer of the hybrid circuit to at least one or more discrete components (column 1, lines 29 to column 2, line 11).

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Moschytz et al. differs from the instant claimed invention that it does not show the multiplexer being connected to a controller. However, Gerzberg et al. discloses (figure 4A) the use of multiplexer (84) being connected to a controller in a hybrid circuit (column 11, lines 24 – 25). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine Moschytz et al. and Gerzberg et al. to provide the multiplexer being connected to a controller for easier to control the system.

Regarding claims 6 and 7, Moschytz et al. discloses (figure 1 and column 3, lines 30 – 64):

- A hybrid circuit for interfacing a twisted pair transmission line to a receiver and also to a transmitter (column 1, lines 17 – 28);
- The hybrid circuit is provided with an adjustable termination impedance (column 1, lines 29 – 52) and comprises blocks 19 and 20 of figure 1 corresponding to a first transformer and blocks 17 and 18 of figure 1 corresponding to a second transformer (one can call the impedance that transfers and changes a signal as the transformer), the first transformer being connected to the receiver 9, the second transformer being connected to the transmitter 3, where the first and second transformer are both within the adjustable termination impedance 8;
- The adjustable termination impedance is inherently configured to selectively and simultaneously connect at least one transformer or more of the hybrid circuit to at least one or more discrete components (column 1, lines 29 to column 2, line 11).

Moschytz et al. differs from the instant claimed invention that it does not show the multiplexer configured to selectively and simultaneously connect both of transformers. However, Gerzberg et al. discloses (figure 4A) the use of multiplexer (see block 84 simultaneously transfers data to block 86 and subscriber lines through digital filter 82, xDSL/cable modem 80, cross connector 73, line protection 71) in a hybrid circuit (column 11, lines 24 – 25). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was

made to combine Moschytz et al. and Gerzberg et al. to provide the adjustable termination impedance further comprises a multiplexer configured to selectively and simultaneously connect both transformers for easier to control the system.

6. **Claim 9 is rejected** under 35 U.S.C. 103(a) as being unpatentable over Moschytz et al. (US patent # 6,208,732 B1).

Regarding claim 9, Moschytz et al. discloses:

- A hybrid circuit for interfacing a twisted pair transmission line to a receiver and also to a transmitter (column 1, lines 17 – 28); wherein
- The hybrid circuit is provided with an adjustable termination impedance (column 1, lines 29 – 52) comprising at least one device 8 of figure 1 configured to change one of a resistance, or a capacitance, or inductance 20 in response to a variable voltage (column 1, line 59 to column 2, line 11 and from column 2, line 62 to column 3, line 2).

Moschytz et al. differs from the instant claimed invention that it does not show that wherein at least one linear device comprising of a field effect resistor, a varactor, and a gyrator. However, the device 8 of figure 1 should have been a linear device since it has comprised a resistor, and/or capacitor, and/or an inductance, and should further comprise one of a field effect transistor, a varactor, and a gyrator since those have been devices may have different resistive values for responsive to a variable voltage. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to implement Moschytz et al. to provide wherein at least one linear device comprising of a field effect resistor, a varactor, and a gyrator for easier to control in response to a variable voltage.

7. **Claims 12 and 13 are rejected** under 35 U.S.C. 103(a) as being unpatentable over Moschytz et al. (US patent # 6,208,732 B1), Gerszberg et al. (US patent # 6,510,152 B1), and further in view of Younce et al. (US patent # 5,521,908).

Regarding claims 12 and 13, respectively, Moschytz et al. discloses:

- Measuring at least one property of a communication channel connected to the modem (must be measured for impedance matching network, column 1, lines 24 - 52);
- Inherently changing the hybrid circuit is provided with an adjustable termination impedance (must be adjusting and changing for impedance network, column 2, lines 3 – 52) based on a measurement of the at least one property;
- Inherently changing a hybrid termination impedance on a result of the transhybrid loss (must be changing for impedance network, column 1, line 29 to column 2, line 52).

While Gerzberg et al. inherently discloses that the hybrid termination impedance is changed to one from a finite number of discrete hybrid termination impedance values, and is changed to a hybrid termination impedance within a predetermined continuous range (column 2, line 27 to column 3, line 9). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to implement Gerzberg et al. into Moschytz et al. to provide that the hybrid termination impedance is changed to one from a finite number of discrete hybrid termination impedance values, and is changed to a hybrid termination impedance within a predetermined continuous range for improving the communication system.

Finally, Moschytz et al. and Gerzberg et al. differ from the instant claimed invention that they do not show the determining step to determine of at least one of a background noise profile of the channel, a channel loss characteristic, and local echo power. However, Younce et al. discloses the determining step to determine of at least one of a background noise profile of the channel, a channel loss characteristic, and local echo power (abstract). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine Moschytz et al., Gerzberg et al., and Younce et al. to provide the determining step to determine of at least one of a background noise profile of the channel, a channel loss characteristic, and local echo power for improving the communication system by providing a method for calculating the parameters of a SIRF (abstract of Younce et al.).

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Wingrove et al. (US patent # 6,693,957 B1) discloses an adaptive frond end for DMT modem.

Polley et al. (US patent # 6,618,480 B1) discloses a DAC architecture for analog echo cancellation.

Tyrrell et al. (US patent # 6,618,480 B1) discloses a synchronous optical transmission system.

Contact Information

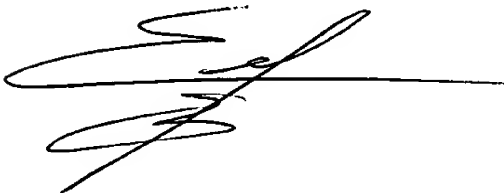
8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dung X. Nguyen whose telephone number is (703) 305-4892. The examiner can normally be reached on Monday through Friday from 8:30 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Ghayour Mohammad H. can be reached on (703) 306-3034. The fax phone numbers for this group is (703) 872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3800.

DXN

February 23, 2004

A handwritten signature in black ink, appearing to be 'Dung X. Nguyen', written over a horizontal line.